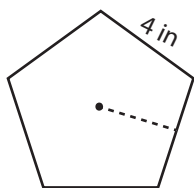


Polygon - Apothem

Example:



Perimeter = number of sides \times side length

$$= 5 \times 4 = \mathbf{20 \text{ in}}$$

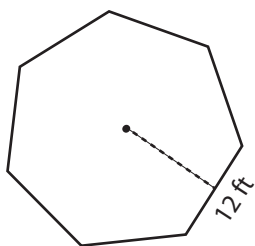
$$\text{Area} = 27.5 \text{ in}^2$$

$$\text{Apothem} = \frac{2 \times \text{area}}{\text{perimeter}}$$

$$= \frac{2 \times 27.5}{20} = \mathbf{2.75 \text{ in}}$$

Find the perimeter and apothem of each polygon.

1)

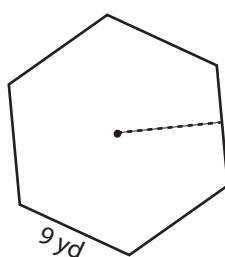


$$\text{Area} = 523.32 \text{ ft}^2$$

$$\text{Perimeter} = \underline{\hspace{2cm}}$$

$$\text{Apothem} = \underline{\hspace{2cm}}$$

2)

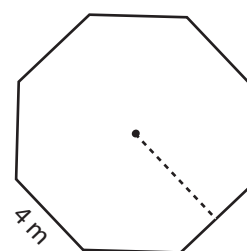


$$\text{Area} = 210.33 \text{ yd}^2$$

$$\text{Perimeter} = \underline{\hspace{2cm}}$$

$$\text{Apothem} = \underline{\hspace{2cm}}$$

3)

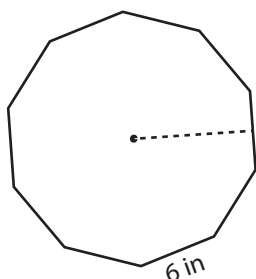


$$\text{Area} = 77.28 \text{ m}^2$$

$$\text{Perimeter} = \underline{\hspace{2cm}}$$

$$\text{Apothem} = \underline{\hspace{2cm}}$$

4)

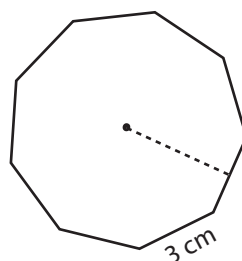


$$\text{Area} = 276.9 \text{ in}^2$$

$$\text{Perimeter} = \underline{\hspace{2cm}}$$

$$\text{Apothem} = \underline{\hspace{2cm}}$$

5)

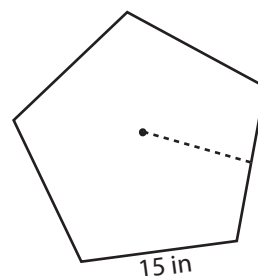


$$\text{Area} = 55.62 \text{ cm}^2$$

$$\text{Perimeter} = \underline{\hspace{2cm}}$$

$$\text{Apothem} = \underline{\hspace{2cm}}$$

6)

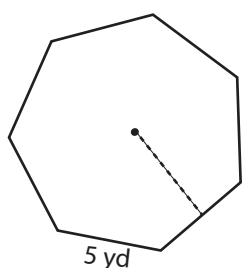


$$\text{Area} = 387 \text{ in}^2$$

$$\text{Perimeter} = \underline{\hspace{2cm}}$$

$$\text{Apothem} = \underline{\hspace{2cm}}$$

7)

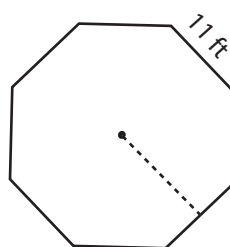


$$\text{Area} = 90.83 \text{ yd}^2$$

$$\text{Perimeter} = \underline{\hspace{2cm}}$$

$$\text{Apothem} = \underline{\hspace{2cm}}$$

8)

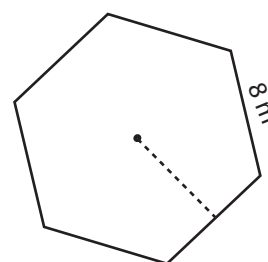


$$\text{Area} = 584.32 \text{ ft}^2$$

$$\text{Perimeter} = \underline{\hspace{2cm}}$$

$$\text{Apothem} = \underline{\hspace{2cm}}$$

9)



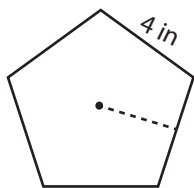
$$\text{Area} = 166.32 \text{ m}^2$$

$$\text{Perimeter} = \underline{\hspace{2cm}}$$

$$\text{Apothem} = \underline{\hspace{2cm}}$$

Answer Key

Example:

Perimeter = number of sides \times side length

$$= 5 \times 4 = \mathbf{20 \text{ in}}$$

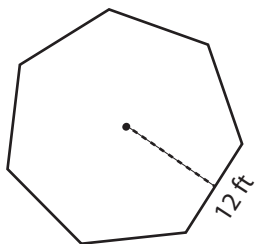
$$\text{Area} = 27.5 \text{ in}^2$$

$$\text{Apothem} = \frac{2 \times \text{area}}{\text{perimeter}}$$

$$= \frac{2 \times 27.5}{20} = \mathbf{2.75 \text{ in}}$$

Find the perimeter and apothem of each polygon.

1)

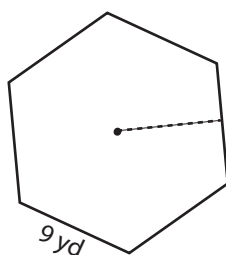


$$\text{Area} = 523.32 \text{ ft}^2$$

$$\text{Perimeter} = \mathbf{84 \text{ ft}}$$

$$\text{Apothem} = \mathbf{12.46 \text{ ft}}$$

2)

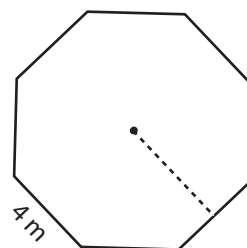


$$\text{Area} = 210.33 \text{ yd}^2$$

$$\text{Perimeter} = \mathbf{54 \text{ yd}}$$

$$\text{Apothem} = \mathbf{7.79 \text{ yd}}$$

3)

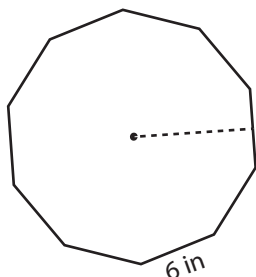


$$\text{Area} = 77.28 \text{ m}^2$$

$$\text{Perimeter} = \mathbf{32 \text{ m}}$$

$$\text{Apothem} = \mathbf{4.83 \text{ m}}$$

4)

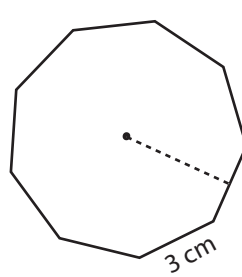


$$\text{Area} = 276.9 \text{ in}^2$$

$$\text{Perimeter} = \mathbf{60 \text{ in}}$$

$$\text{Apothem} = \mathbf{9.23 \text{ in}}$$

5)

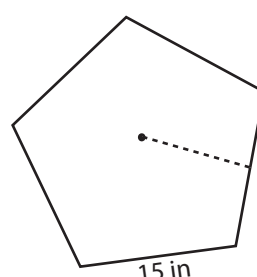


$$\text{Area} = 55.62 \text{ cm}^2$$

$$\text{Perimeter} = \mathbf{27 \text{ cm}}$$

$$\text{Apothem} = \mathbf{4.12 \text{ cm}}$$

6)

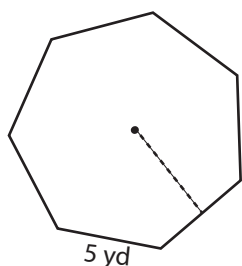


$$\text{Area} = 387 \text{ in}^2$$

$$\text{Perimeter} = \mathbf{75 \text{ in}}$$

$$\text{Apothem} = \mathbf{10.32 \text{ in}}$$

7)

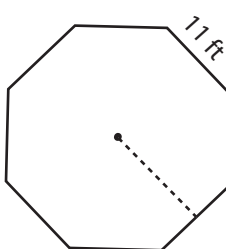


$$\text{Area} = 90.83 \text{ yd}^2$$

$$\text{Perimeter} = \mathbf{35 \text{ yd}}$$

$$\text{Apothem} = \mathbf{5.19 \text{ yd}}$$

8)

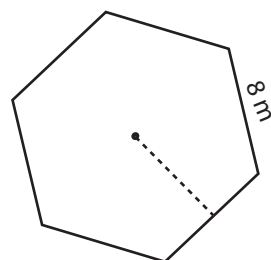


$$\text{Area} = 584.32 \text{ ft}^2$$

$$\text{Perimeter} = \mathbf{88 \text{ ft}}$$

$$\text{Apothem} = \mathbf{13.28 \text{ ft}}$$

9)



$$\text{Area} = 166.32 \text{ m}^2$$

$$\text{Perimeter} = \mathbf{48 \text{ m}}$$

$$\text{Apothem} = \mathbf{6.93 \text{ m}}$$